

Document made available under the Patent Cooperation Treaty (PCT)

International application number: PCT/US04/041086

International filing date: 08 December 2004 (08.12.2004)

Document type: Certified copy of priority document

Document details: Country/Office: US
Number: 60/527,945
Filing date: 08 December 2003 (08.12.2003)

Date of receipt at the International Bureau: 05 January 2005 (05.01.2005)

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b)



World Intellectual Property Organization (WIPO) - Geneva, Switzerland
Organisation Mondiale de la Propriété Intellectuelle (OMPI) - Genève, Suisse



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

December 21, 2004

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE.

APPLICATION NUMBER: 60/527,945

FILING DATE: *December 08, 2003*

RELATED PCT APPLICATION NUMBER: *PCT/US04/41086*

Certified by



Jon W Dudas

Acting Under Secretary of Commerce
for Intellectual Property
and Acting Director of the U.S.
Patent and Trademark Office

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PROVISIONAL APPLICATION FOR PATENT COVER SHEET


This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

EL 995078957 US

INVENTOR(S)					
Given Name (first and middle [if any])		Family Name or Surname		Residence (City and either State or Foreign Country)	
Khelan M.		Modi		Fishers, Indiana	
Joseph W.		Forler		Zionsville, Indiana	
<input type="checkbox"/> Additional inventors are being named on the _____ separately numbered sheets attached hereto					
TITLE OF THE INVENTION (500 characters max)					
Digital/Analog Closed Caption System					
Direct all correspondence to: CORRESPONDENCE ADDRESS					
<input type="checkbox"/> Customer Number _____					
OR					
<input checked="" type="checkbox"/> Firm or Individual Name		JOSEPH S. TRIPOLI, THOMSON LICENSING INC.			
Address		PATENT OPERATIONS			
Address		P. O. BOX 5312			
City		PRINCETON	State	NJ	ZIP 08543-5312
Country		USA	Telephone	609 - 734-6834	Fax 609 - 734-6888
ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/> Specification Number of Pages		3		<input type="checkbox"/> CD(s), Number _____	
<input checked="" type="checkbox"/> Drawing(s) Number of Sheets		1		<input type="checkbox"/> Other (specify) _____	
<input type="checkbox"/> Application Data Sheet. See 37 CFR 1.76					
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT					
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27.					
<input type="checkbox"/> A check or money order is enclosed to cover the filing fees					
<input checked="" type="checkbox"/> The Director is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number: 07-0832					
<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.					
FILING FEE AMOUNT (\$) 160					
The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.					
<input type="checkbox"/> No.					
<input type="checkbox"/> Yes, the name of the U.S. Government agency and the Government contract number are: _____					

Respectfully submitted,

SIGNATURE



(Page 1 of 2)

Date

12/08/03

TYPED or PRINTED NAME

Robert D. Shedd

REGISTRATION NO.

36,269

(if appropriate)

Docket Number:

PU030413

TELEPHONE

609 734 6828

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

This collection of information is required by 37 CFR 1.51. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Provisional Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

17548 U.S. PTO
60/527945

120803

Digital/Analog Closed Caption System

Most television signal processing systems in the United States provide for processing auxiliary information such as closed caption (CC) information. That is, the system extracts closed caption data from a television signal and generates a signal suitable for displaying the closed caption information. A television system described herein is capable of processing a digital television signal (e.g., ATSC) and can process both digital and analog auxiliary information. In the case of closed captioning, the described digital television system can extract and process digital closed caption information according to standard EIA-708 and analog closed caption information according to standard EIA-608.

A system as described herein includes a user interface (UI) feature allowing the user the option to select CC priority for digital programming (ATSC). One option is to use Digital CC (EIA-708) and never use Analog CC. Another option is to use Analog CC (EIA-608) and never use Digital CC. If a user selects the first option, a television system would only display CC on the screen if the Digital CC were available for that channel (program). Even if Analog CC were available, it would not be displayed on the screen. The television signal processing system described herein also provides for extracting and displaying CC (Analog or Digital) for digital programming (ATSC), if present. That is, the present system allows the user the option of selecting a fallback method of obtaining captioning for a digital program signal if the digital program signal does not include Digital CC.

If the user selects and enables the fallback method, to display CC on a digital channel, the system looks at the ATSC stream for available CC data. If there is no Digital CC (EIA-708) data present, the system looks for embedded Analog CC (EIA-608) data. If data is present, then Analog CC data is decoded and Analog CC will be displayed on the screen. The system continues to check for the presence of Digital CC data. If Digital CC is detected at any point in time, the system will start displaying Digital CC.

An aspect of the described system involves processing television signals during the transition from analog programming to digital programming. During this transition, service providers transfer the analog content to digital content for video and audio. To support CC on digital channels, content providers simply embed the Analog CC data in the ATSC stream with specific headers. The EIA-708B specification describes how to detect embedded EIA-608 CC data. The present system uses this information to provide the described features including the fallback method involving displaying Analog CC (EIA-608) on a digital channel. Therefore, the described system provides the CC service for digital programming (ATSC) irrespective of the type of CC service (Analog/Digital) available for a program or channel. As ATSC channels have more bandwidth, it is possible to include both Analog as well as Digital CC services.

Figure 1 shows a flowchart illustrating an exemplary embodiment of the described system including the fallback method of displaying CC data. The system shown in Figure 1 involves the television signal processing system being tuned to a digital channel playing digital programming. However, the described system is applicable to other

Express mail: EL 995078957

PU030413

systems that involve processing a television signal that may include both digital and analog auxiliary information.

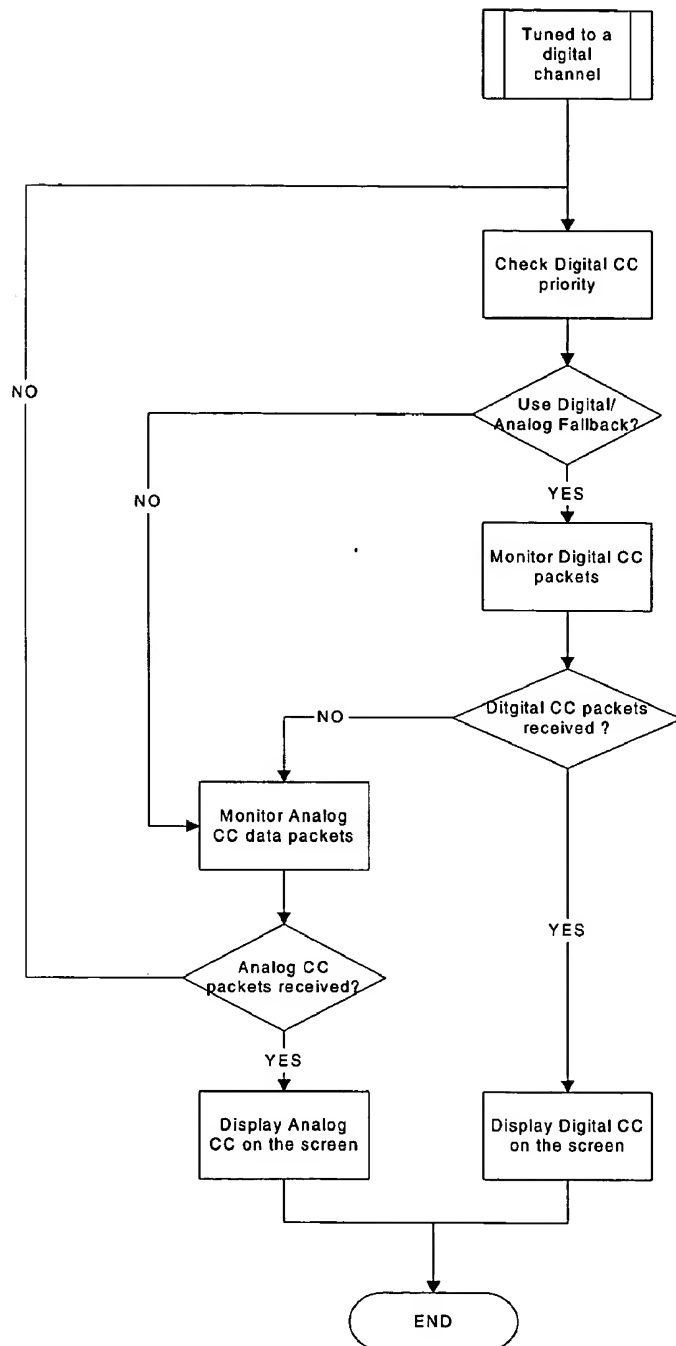
Digital/Analog CC Fallback for digital programming (ATSC)

Figure 1